Hospitalization

Definition: Discharges resulting from inpatient admissions to non-federal acute care hospitals in Washington state and recorded in the state's Comprehensive Hospital Abstract Reporting System (CHARS—See Technical Notes for description).

Summary

There were 501,351 resident hospitalizations in Washington in 1994, or 94 per 1,000 people in the state. These hospitalizations represented 2,155,773 patient days and charges of close to $3.7 billion. Birth related conditions are the most common reasons for hospitalization. Leading illness-related causes include heart disease, digestive system disorders, cancer, mental health treatment, injuries, and infectious and parasitic diseases. Adults 65 and over form the largest portion of those hospitalized for non-birth related conditions, and Medicare pays for the largest proportion of hospitalizations of any payer category.

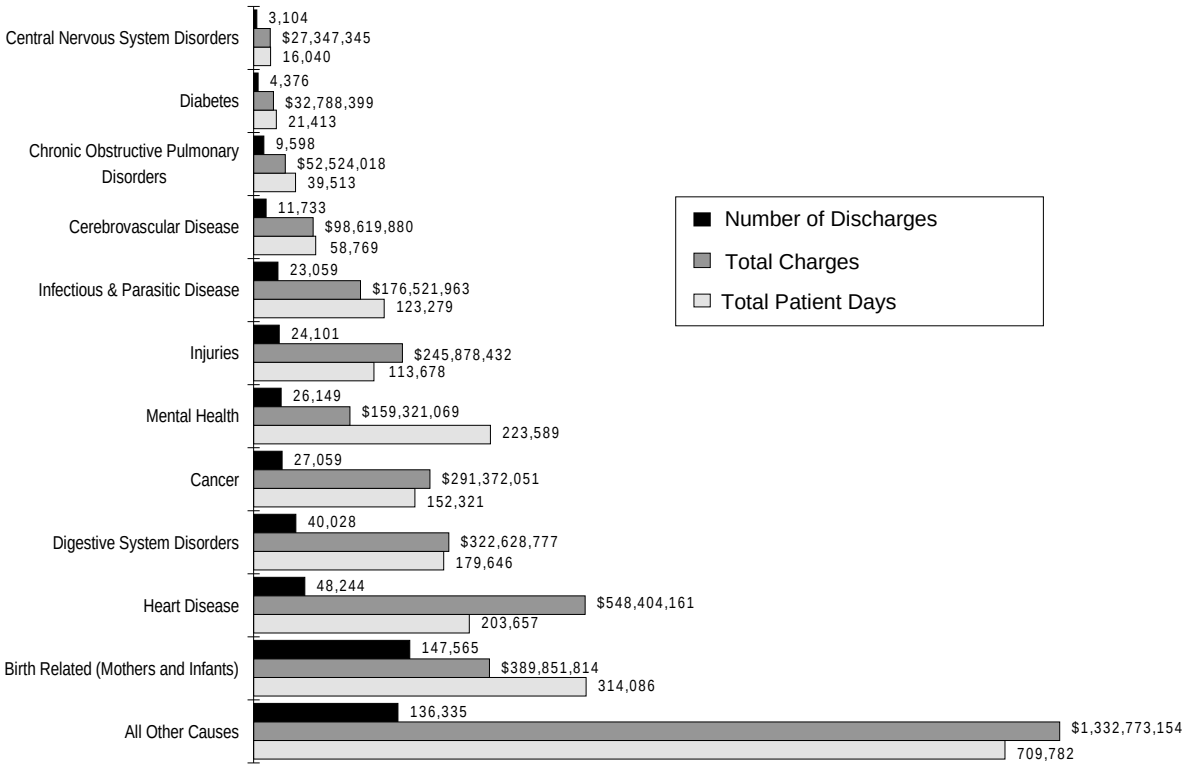
General Uses of Hospitalization Data

Hospitalization statistics give a broad picture of the general health and health care treatment of the population. As health care has shifted towards managed care, prevention, and cost control, patient care has increasingly moved to outpatient, home health, and alternative care settings. While the proportion of care provided in inpatient settings has declined, it still provides a picture of health at the extreme end of care and shows how care is shifting from a fee-for-service to a managed care environment.

Leading Causes

Births and birth related conditions were the number one cause of hospitalization in 1994 and in

Causes of Hospitalization, Washington State, 1994



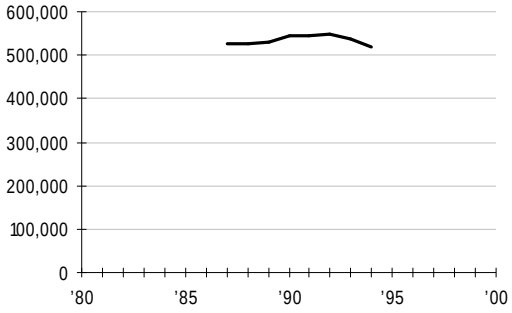
every year since 1987. In 1994, birth-related hospitalizations accounted for about 29% of the total. Other leading causes of hospitalization, after births, include (in order): heart disease, digestive system disorders, cancer, mental health treatment, injuries, and infectious and parasitic diseases. Other leading causes include cerebrovascular disease, chronic obstructive pulmonary disease (COPD), diabetes, and central nervous system disorders. In 1994, these leading causes of hospitalization accounted for 73% of all resident discharges and 64% of all hospital charges, or over $2.3 billion dollars annually.

As the chart on the preceding page shows, the "All Other Cause" category (accounting for 27% of all hospitalizations and including literally hundreds of causes) accounts for a disproportionate amount of both charges and hospital days. There are many serious and expensive causes of hospitalization that are not included in the leading causes.

Time Trends

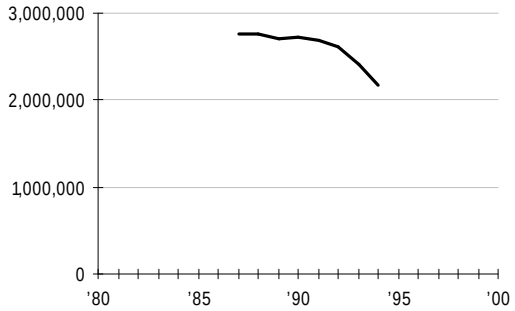
From 1980 to 1993, inpatient visits to Washington hospitals for both residents and non-residents declined 15% and outpatient visits rose 91%. Inpatient admissions declined from 134 per 1,000 population to 90 per 1,000, a decrease of 33%, while outpatient visits increased from 1,161 per 1,000 to 1,751 per 1,000, an increase of 51%. Outpatient revenue as a percent of total revenue increased from 15% in 1980 to 36% in 1994.

Hospital Discharges
Washington, 1987-1994



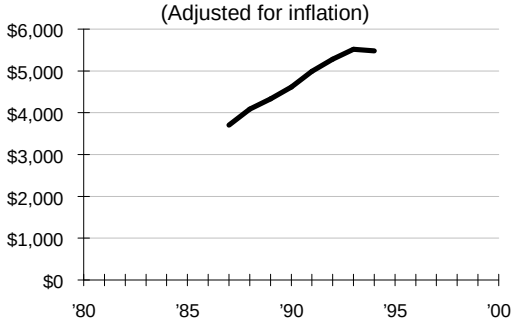
Statewide discharges and patient days for 1994 decreased 3.1% and 9.9% respectively from the previous year and were the lowest volumes on record. Since 1985, the total number of hospital discharges has increased only slightly while the average charge per discharge has steadily increased, supporting the notion that minor treatments are moving to the outpatient arena while only the more severe cases are being hospitalized.

Hospital Patient Days
Washington, 1987-1994



Although the average charge per discharge has risen steadily since 1987, growth is slowing considerably in recent years. The average charge per discharge in 1987 was $3,705; by 1994, it had almost doubled, to $7,090. However, the annual rate of change declined from a high of 15% between 1987 and 1988 to less than 2% between 1993 and 1994. Washington's brief stint with health reform and the growing impetus toward managed care are major factors affecting this decline.

Hospital Average Charges per Discharge, Washington, 1987-1994
(Adjusted for inflation)



Another effect of the shifting health care environment is the downward trend in the average length of stay. Since 1987, the average length of stay has declined from just over 5 days to just barely over 4, almost 21% or slightly more than a day. In recent years, the change in the average length of stay from the previous year is increasing as the pressure to keep people out of the hospital under a managed care environment grows.

Age and Gender

Overall, females were hospitalized more often than males in 1994. If birth-related hospitalizations are included, females account for 59% of the hospitalizations and 52% of the charges, while males account for 41% and 48% respectively. If birth-related hospitalizations are removed, the numbers for women drop, to 53% of the hospitalizations and 49% of the charges versus 47% and 51% for men. Women were hospitalized more often for cancer, chronic obstructive pulmonary disease (COPD), asthma, and digestive system disorders. Hospitalizations for heart disease and HIV/AIDS were higher for men.

With birth-related conditions included, women account for 55% of the patient days and men 45%; without birth-related hospitalizations, women account for 52% of the patient days while men account for 48%.

Older adults predominate in nearly all the leading causes of hospitalization, with the exception of births, HIV/AIDS, mental health, and asthma. Of all patients discharged from hospitals, 23% were 65 or older. Over 50% of patients admitted for heart disease and cancer were in this age bracket. Patients 85 and over had the single highest percentage of hospitalizations for injuries.

Over 70% of HIV/AIDS hospitalizations are in the age 30-44 category. Mental health hospitalizations peak between ages 25 and 44. Asthma hospitalizations are highest in children 1 through 9, and taper off dramatically after age 14.

Race and Ethnicity

There is no race or ethnicity coding in Washington's hospital data system, so information on this subject is not available.

Other Measures of Impact and Burden

Although the number of hospitalizations gives some idea of the impact of disease on the state's population, there are additional measures that may help explain the scope and economic impact of hospitalizations.

Incidence. Unduplication of prior years of data shows that a small number of people, especially with certain conditions, are often responsible for a sizable number of admissions.

Hospital Charges. Although hospital charges do not capture the true costs of hospitalizations to society and the economy, they can provide some idea of the magnitude of the cost of poor health and injuries to our state. Overall hospitalization charges ran almost $3.7 billion in 1994; the leading causes discussed earlier accounted for over $2.3 billion of those charges.

Of the leading causes, heart disease accounts for the largest portion, at close to $540 million, or 15% of total hospital charges in 1994. All birth-related hospitalizations run a distant second at $390 million, or 11% of the total hospital charges. The next most expensive categories are digestive system disorders, cancer, injuries, infectious and parasitic disease, and mental health.

The charge burden can also be examined by cost per hospitalization. Although births do account for a large proportion of the hospital dollars, this is largely due to the sheer numbers. The average charge per birth admission comes to $2,642, while the average charge per heart disease admission is $11,429, over four times as much. Other high cost per admission illnesses are HIV/AIDS at $10,786; cancer at $10,768; and injuries at $10,202.

Payer. Medicare leads as the payer with the largest percentage of total resident hospitalizations, at 30%, and in nearly all leading cause categories. These hospitalizations account for 41% of all charges, indicating that older adults are the primary users of hospital resources.

Medicaid has the second largest percentage at slightly over 19% of the discharges and 16% of all charges, and pays for the greatest proportion of births and birth-related hospitalizations, HIV/AIDS treatment, and asthma hospitalizations. This may reflect the lack or lesser availability of early diagnosis and treatment, patient education, and preventive care among the economically disadvantaged. Commercial insurance is a close third, covering just under 19% of the inpatient population and 17% of the charges.

When birth-related hospitalizations are removed, the picture changes somewhat. Medicare's proportion rises to 42% of all discharges and 46% of all charges, Medicaid drops to third place with 13% of both discharges and charges, and commercial insurance rises to second place with 16% of both charges and discharges.

Medicaid and Medicare together account for about 50% of the hospitalizations and almost 60% of the charges. These payers also predominate in

all of the leading cause categories. Medicare alone covers more than 50% of the hospitalizations for heart disease, pneumonia and influenza, COPD, and infectious disease. Since there is a third payer category that covers other publicly funded patients (such as Indian Health and US military coverage), at least 50% of the hospitalizations and 60% of the charges are publicly funded.

High Risk Groups

Hospitalization rates cannot pinpoint specific high-risk groups but they can spotlight populations in need of general education, intervention, prevention, and in some cases greater access to health care. The preponderance of hospitalizations in the Medicare and Medicaid populations show that primary users of hospital care are elderly people and poor people. The narrative above highlights which specific causes are dominated by Medicaid and Medicare patients, by men versus women, and by various age groups.

When examined from the perspective of resource use, some general patterns emerge. Men spend more on heart disease, HIV/AIDS, injuries, and diabetes. It is interesting to note that more male babies are born with complications than female, although normal male and female births are nearly equal. Women spend more for cancer, COPD, asthma and digestive disorders.

Data Sources

The Comprehensive Hospital Abstract Reporting System (CHARS), 1987-94

Hospital Financial Database, 1980-94

Episode of Illness Database (EPI), 1993

American Hospital Association Hospital Statistics, 1982 and 1994/95

OFM State Population Estimates

Technical Notes

CHARS

Washington State's hospital discharge system, or CHARS, collects inpatient data on all state-licensed acute care facilities in Washington. It does not include data regarding federal hospitals, freestanding clinics, outpatient/ambulatory care facilities, or hospitalization of Washington residents outside the state. Records are collected by hospitalization, not by individual. The CHARS system does not accept missing data , but charges are not collected from the Group Health (HMO) hospitals. The numbers presented using the CHARS data were primarily analyzed on Washington residents only to obtain a truer picture of health of state residents. Residents who cross state borders into Oregon or Idaho are not captured by the system , so the resident numbers presented will somewhat underrepresent the actual numbers, especially in border counties such as Clark, Asotin, and Whitman.

HOSPITAL FINANCIAL DATABASE

Trend figures were obtained from the Hospital Financial Database, which collects hospital financial statements and budgets for Washington state licensed facilities. This data is reported in aggregate for each hospital and is not segregable by patient characteristics or by diagnosis category.

References

American Hospital Association. Hospital Statistics. Chicago; American Hospital Association, annual.

National Hospital Discharge Survey: Annual Summary, 1992. Hyattsville, MD; NCHS, Dept. of Health and Human Services, 1994.

Puckett, Craig. The Educational Annotation of ICD-9-CM. Reno; Channel Publishing, with official addendum through October 1, 1994.

3M. Diagnosis Related Groups, Version 11. Definitions Manual.

Leading Cause Category Definitions

The first 3 digits of the Principal Diagnosis were used unless otherwise specified.

Cause	*Coding Definition*
Heart Disease	391-392.0, 393-398, 402, 404, 410-416, 420-429
Infectious & Parasitic Disease	001-139, 480-487
HIV/AIDS	042-044
Pneumonia/Influenza	480-487
Cancer	140-239
Injuries	800-959
Mental Health	290-319
COPD	490-496
Asthma	493
Diabetes	250
Cerebrovascular Disease	430-438
Digestive System Disorders	530-579
Central Nervous System Disorders	320-336, 340-349
Birth-related	
Mothers	
Normal	DRG 373, 371
With complications	DRG 370, 372, 374, 375
Other birth-related	DRG 376-384
Infants	
Normal	DRG 391
With complications	DRG 385-390
Other	All other records not included in above

For More Information

Washington State Department of Health, Office of Hospital and Patient Data Systems.